3 SITE REQUIREMENTS AND PLANNING ASSUMPTIONS

3.1 INTRODUCTION

The DOE will accomplish the Hanford Site mission through a number of prime contractors and subcontractors that have specific areas of responsibilities. The Hanford Site mission involves movement of wastes and materials both onsite and offsite. The movement of this waste and material is the basis for the site technical logic depicted in Section 3.2 and the offsite interfaces listed in Section 3.3. A number of requirements apply universally to all activities conducted on the Hanford Site, regardless of the organization responsible for the activities. The requirement source documents are listed in Section 3.4 and the activities of the prime contractors are summarized in Section 3.5.

3.2 HANFORD SITE TECHNICAL LOGIC

The Hanford Site technical logic for waste and material is shown in Figure 3-1 and Figure 3-2, respectively. These data reference the current planning assumptions based on the Hanford Site technical baseline. In many cases, this planning information is still the subject of pending NEPA decisions.

Figure 3-1 Hanford Site Technical Logic - Waste

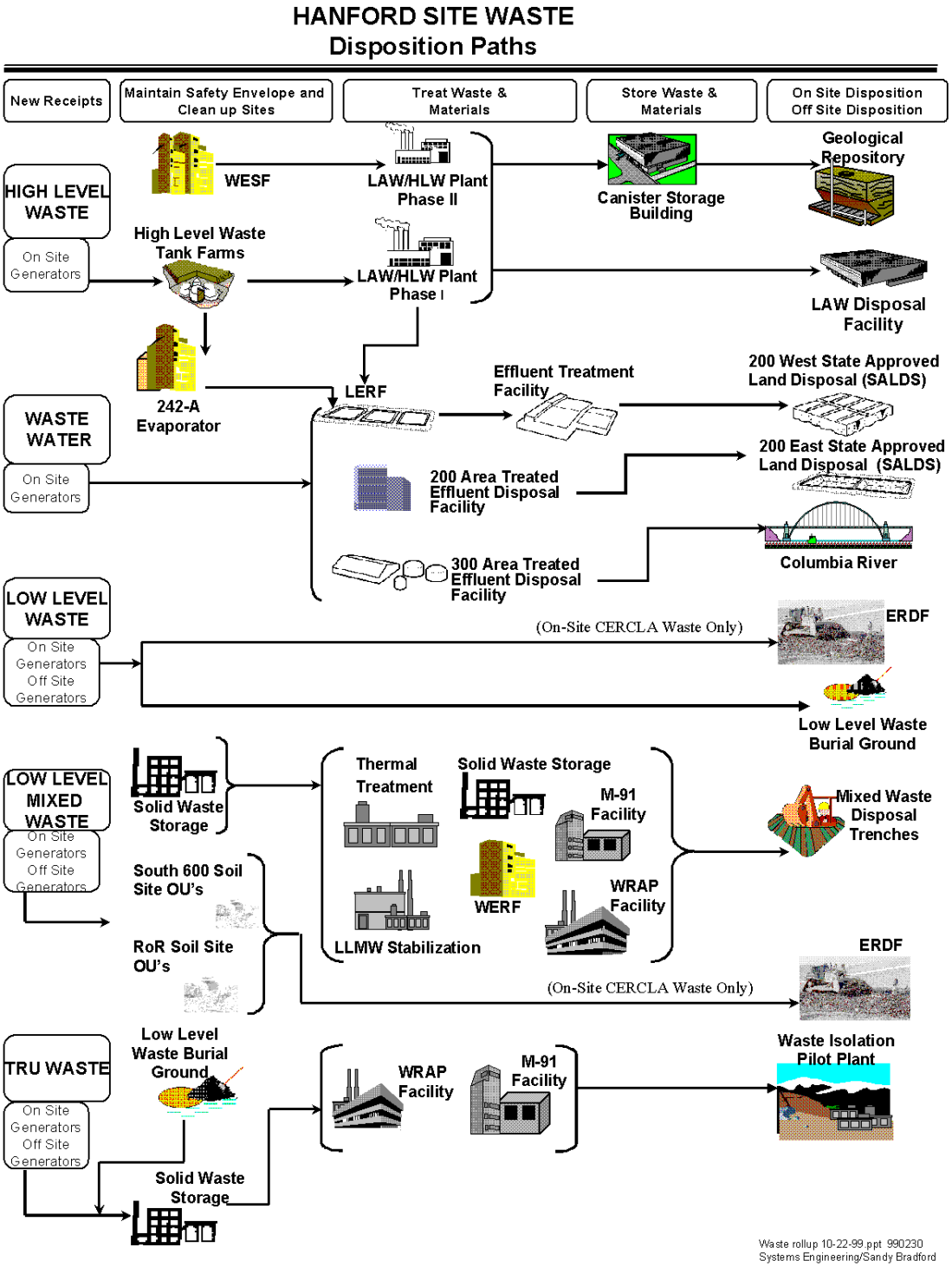
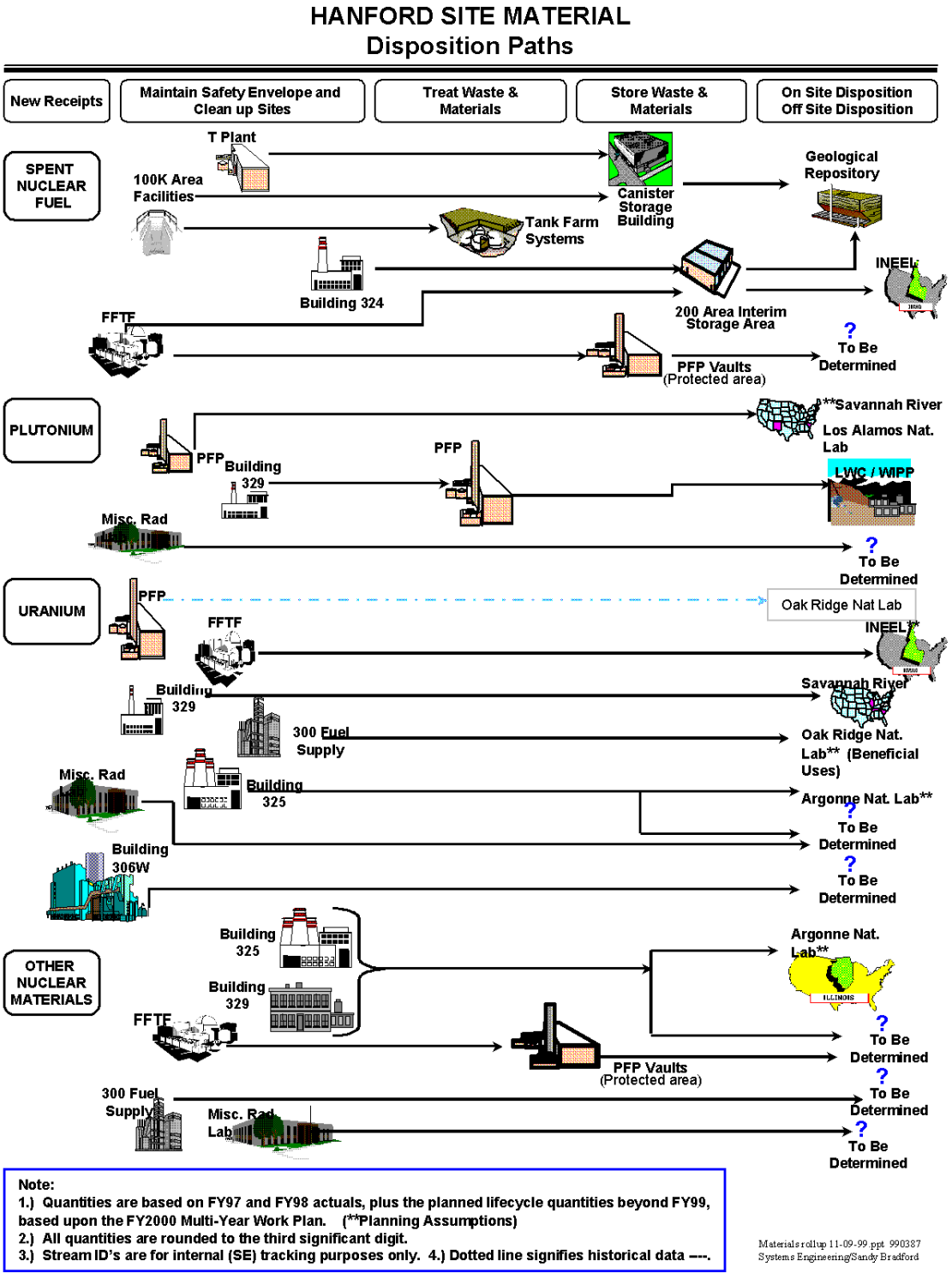


Figure 3-2 Hanford Site Technical Logic - Material



3.3 OFFSITE WASTE AND NUCLEAR MATERIAL INTERFACES

This section contains the requirements and planning assumptions that define the boundaries and interfaces of the Hanford Site with other portions of the EM national waste management system. These interfaces describe the materials generated by other sites that the Hanford Site must deal with and the materials that the Hanford Site generates or contains that will be dispositioned offsite by other portions of the EM Complex. The responsibility and forecasted quantities for these material interfaces are assigned to specific projects and appears in the appropriate project specification in Section 4.

Table 3-1 Site-Level Waste/Material Sent Offsite

Major Facility	Category	Period	Value	Units
Argonne National Laboratory - East	Low Enriched Uranium (LEU)	2000 - 2000	127.0	kilograms
	Misc NM	2000 - 2000	0.05	kilograms
Columbia River	Treated Liquid Effluent	2000 - 2030	4750000	cubic meters
Hazardous Waste Disposal Contracts	HAZ	2000 - 2046	1690	cubic meters
Idaho National Engineering Laboratory	Highly Enriched Uranium (HEU)	2002 - 2002	42.7	kilograms
	Spent Nuclear Fuel (SNF)	2003 - 2003	0.31	MTHM
National Geologic Repository	HLW	2036 - 2044	17100	cubic meters
	Spent Nuclear Fuel (SNF)	2015 - 2040	2130	MTHM
Oak Ridge National Laboratory	Highly Enriched Uranium (HEU)	2000 - 2001	18.0	kilograms
	Misc NM	2000 - 2008	394.0	kilograms
Offsite Landfill	Asbestos	2000 - 2034	4490	cubic meters
	Sanitary Solid Waste	2000 - 2043	5130	tons
	Sanitary Solid Waste	2000 - 2044	616000	cubic meters
Offsite Sales	Depleted Uranium (DU)	2001 - 2001	2600	kilograms
	Low Enriched Uranium (LEU)	2001 - 2001	1780000	kilograms
	Natural Uranium (NU)	2001 - 2001	75600	kilograms
Savannah River Site	Plutonium (Pu)	2006 - 2008	4030	cans
Seimens Power	Low Enriched Uranium (LEU)	2000 - 2008	1260	kilograms
TBD	CH LLMW I	2000 - 2046	150.0	cubic meters
	LLW (Liquid)	2002 - 2003	28000	cubic meters
	Misc SNM	2007 - 2007	32.0	Items
External Systems	CH LLMW I	2000 - 2046	11900	cubic meters
	CH LLMW III	2000 - 2035	3520	cubic meters
	CH LLW I	2000 - 2046	77300	cubic meters
	CH LLW III	2000 - 2046	5220	cubic meters
	CH TRU	2000 - 2032	5780	cubic meters
	CH TRUM	2000 - 2037	2580	cubic meters
	Depleted Uranium (DU)	2008 - 2008	10.0	kilograms
	Highly Enriched Uranium (HEU)	2008 - 2008	0.01	kilograms
	Low Enriched Uranium (LEU)	2008 - 2008	0.01	kilograms
	Misc NM	2008 - 2008	294.0	kilograms
	Natural Uranium (NU)	2008 - 2008	5.0	kilograms
	Plutonium (Pu)	2008 - 2008	0.003	kilograms
	RH LLMW I	2000 - 2032	2720	cubic meters
	RH LLMW III	2000 - 2031	27900	cubic meters
	RH LLW GTCIII	2017 - 2021	6.42	cubic meters
	RH LLW I	2001 - 2016	12.5	cubic meters
	RH LLW III	2000 - 2046	396.0	cubic meters
	RH TRU	2000 - 2033	216.0	cubic meters
	RH TRUM	2000 - 2033	1340	cubic meters

Table 3-2 Site-Level Waste/Material Received From Offsite

Major Facility	Category	Period	Value	Units
Ames Laboratory	CH LLW I	2000 - 2046	115.0	cubic meters
Argonne National Laboratory - East	CH LLW I	2000 - 2046	10100	cubic meters
	CH LLW III	2000 - 2046	821.0	cubic meters

Table 3-2 Site-Level Waste/Material Received From Offsite (Continued)

Major Facility	Category	Period	Value	Units
	RH LLW III	2000 - 2046	66.0	cubic meters
Bates Accelerator - Massachusetts	CH LLW I	2001 - 2045	11.0	cubic meters
Battelle Columbus Laboratories	CH LLMW I	2004 - 2004	5.91	cubic meters
	CH LLW I	2000 - 2005	502.0	cubic meters
	CH LLW III	2000 - 2005	732.0	cubic meters
Bettis Atomic Power - Laboratory	CH LLMW I	2001 - 2001	1.02	cubic meters
	CH LLW I	2000 - 2005	350.0	cubic meters
	CH LLW III	2000 - 2005	356.0	cubic meters
Bettis Atomic Power - Shipyards	CH LLW I	2012 - 2012	1.2	cubic meters
Brookhaven National Laboratory	CH LLW I	2000 - 2046	8970	cubic meters
	RH LLW I	2001 - 2016	12.5	cubic meters
FERMI National Accelerator Laboratory	CH LLW I	2000 - 2027	1770	cubic meters
Knolls Atomic Power - Laboratory	CH LLMW I	2000 - 2005	14.9	cubic meters
Knolls Atomic Power - Shipyards	CH LLW I	2000 - 2007	252.0	cubic meters
	CH LLW III	2002 - 2007	140.0	cubic meters
Lawrence Berkeley Laboratory	CH LLW I	2000 - 2030	267.0	cubic meters
Paducah Energy Systems	CH LLW III	2001 - 2002	101.0	cubic meters
PARKS TOWNSHIP	CH LLW I	2000 - 2000	2800	cubic meters
Pearl Harbor Naval Shipyard	CH LLMW I	2001 - 2001	6.93	cubic meters
Portsmouth Energy Systems	CH LLMW I	2000 - 2000	1.03	cubic meters
	CH LLW I	2006 - 2006	292.0	cubic meters
Princeton Plasma Physics Laboratory	CH LLW I	2000 - 2046	2310	cubic meters
Puget Sound Naval Shipyard	CH LLMW I	2002 - 2002	3.34	cubic meters
Rockwell - Canoga Park	CH LLW I	2000 - 2006	1510	cubic meters
Rocky Flats	CH LLMW III	2004 - 2006	0.0	cubic meters
Stanford Linear Accelerator Center	CH LLW I	2000 - 2046	789.0	cubic meters
University of California - Davis	CH LLW I	2000 - 2004	11.1	cubic meters
TBD	CH LLMW I	2000 - 2046	661.0	cubic meters
	CH LLMW III	2000 - 2033	165.0	cubic meters
	CH LLW I	2000 - 2046	33000	cubic meters
	CH LLW III	2000 - 2046	2900	cubic meters
	CH TRU	2000 - 2032	14.7	cubic meters
	CH TRUM	2000 - 2037	1070	cubic meters
	HAZ	2000 - 2037	510.0	cubic meters
	RH LLMW III	2000 - 2010	19.9	cubic meters
	RH LLW III	2000 - 2037	115.0	cubic meters
	RH TRU	2000 - 2033	48.4	cubic meters
	RH TRUM	2000 - 2033	26.2	cubic meters

3.4 REQUIREMENTS REFERENCES

The DOE and contractor activities shall be conducted in accordance with necessary and sufficient requirements. The DOE and contractors shall comply with the requirements of applicable Federal, state, and local laws and regulations as specifically set forth in each prime contract and subcontract such as the following unless relief has been granted by the appropriate regulatory agency.

3.4.1 Laws and Regulations

- 10 CFR 1021, NEPA Implementing Procedures"
- 10 CFR 435, Energy Conservation Voluntary Performance Standards for New Buildings; Mandatory for Federal Buildings"
- 10 CFR 50, Domestic Licensing of Production and Utilization Facilities"
- 10 CFR 60.131, Disposal of High-Level Waste in Geologic Repositories: General Design Criteria for the Geologic Repository Operations Area"
- 10 CFR 60.135, Disposal of High-Level Waste in Geologic Repositories: Criteria for the Waste Package and its Components"
- 10 CFR 71, Packaging and Transportation of Radioactive Material"

- 10 CFR 72, Licensing Requirements for the Independent Storage of Spent Nuclear Fuel and High-Level Radioactive Waste"
- 10 CFR 830.120, Quality Assurance Requirements"
- 10 CFR 835, Occupational Radiation Protection"
- 29 CFR 1910, Occupational Safety and Health Standards"
- 29 CFR 1926, Safety and Health Regulations During Construction"
- 36 CFR 800, Protection of Historic and Cultural Properties"
- 40 CFR 141, National Primary Drinking Water Regulations"
- 40 CFR 143, National Secondary Drinking Water Regulations"
- 40 CFR 1500 through 1508, Council on Environmental Quality, NEPA, EIS"
- 40 CFR 191, Environmental Radiation Protection Standards for Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic Radioactive Wastes"
- 40 CFR 262, Standards Applicable to Generators of Hazardous Waste"
- 40 CFR 264, Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities"
- 40 CFR 265, Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities"
- 40 CFR 268, Land Disposal Restrictions"
- 40 CFR 270, EPA Administered permit Programs: The Hazardous Waste Permit Program"
- 40 CFR 279, Standards for the Management of Used Oil"
- 40 CFR 300, National Oil and Hazardous Substances Pollution Contingency Plan"
- 40 CFR 50, National Primary and Secondary Ambient Air Quality Standards"
- 40 CFR 52, Approval and Promulgation of Implementation Plans"
- 40 CFR 61, National Emissions Standards for Hazardous Air Pollutants"
- 40 CFR 761, Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions"
- 49 CFR 100 to 179, DOT Hazardous Materials Transportation Regulations"
- 49 CFR 172, Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements"
- 49 CFR 173, Shippers, General Requirements for Shipments and Packagings"
- 49 CFR 174, Carriage by Rail"
- 49 CFR 176, Carriage by Vessel"
- 49 CFR 177, Carriage by Public Highway"
- 50 CFR 402, Interagency Cooperation - Endangered Species Act"
- DOE/RL-89-10, Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement), Revision 5"
- WAC 173-14, Permits for Developments on Shorelines of the State"
- WAC 173-200, Water Quality Standards for Ground Waters of the State of Washington"
- WAC 173-201A, Water Quality Standards for Surface Waters of the State of Washington"
- WAC 173-216, State Waste Discharge Permit Program"
- WAC 173-218, Underground Injection Control Program"
- WAC 173-221, Discharge Standards and Effluent Limitations for Domestic Wastewater Facilities"
- WAC 173-225, Federal Water Pollution Control Act--Establishment of Implementation Procedures of Application for Certification"
- WAC 173-240, Submission of Plans and Reports for Construction of Wastewater Facilities"
- WAC 173-303, Dangerous Waste Regulations"
- WAC 173-304, Minimum Functional Standards for Solid Waste Handling"
- WAC 173-307, Plans"
- WAC 173-340, Model Toxics Control Act, Cleanup"
- WAC 173-360, Underground Storage Tank Regulations"
- WAC 173-400, General Regulations for Air Pollution Sources"

- WAC 173-401, Operating Permit Regulations"
- WAC 173-460, Control for New Sources of Toxic Air Pollutants"
- WAC 173-480, Ambient Air Quality Standards and Emission Limits for Radionuclides"
- WAC 246-220, Radiation Protection - General Provisions"
- WAC 246-247, Radiation Protection - Air Emissions"
- WAC 246-272, On-Site Sewage System"
- WAC 246-290, Public Water Supplies"
- WAC 51-11, Washington State Energy Code"

3.4.2 DOE Departmental

- DOE Order 1300.2A, Department of Energy Technical Standards Program"
- DOE Order 1540.2, Hazardous Material Packaging for Transport - Administrative Procedures, Change 1, 1988"
- DOE Order 430.1, Life Cycle Asset Management"
- DOE Order 5300.1C, Telecommunications"
- DOE Order 5400.1, General Environmental Protection Program"
- DOE Order 5400.5, Radiation Protection of the Public and the Environment"
- DOE Order 5440.1E, National Environmental Policy Act Compliance Program"
- DOE Order 5480.10, Contractor Industrial Hygiene Program"
- DOE Order 5480.19, Conduct of Operations Requirements for DOE Facilities"
- DOE Order 5480.20A, Personnel Selection, Qualification, Training, and Staffing at DOE Reactor and Non-Reactor Nuclear Facilities"
- DOE Order 5480.21, Unreviewed Safety Questions"
- DOE Order 5480.22, Technical Safety Requirements"
- DOE Order 5480.23, Nuclear Safety Analysis Report"
- DOE Order 5480.24, Nuclear Criticality Safety"
- DOE Order 5480.26, Trending and Analysis of Operations Information Using Performance Indicators"
- DOE Order 5480.28, Natural Phenomena Hazards Mitigation"
- DOE Order 5480.29, Employee Concerns Management System"
- DOE Order 5480.3, Safety Requirements for the Packaging and Transportation of Hazardous Materials, Hazardous Substances, and Hazardous Waste, 1985"
- DOE Order 5480.31, Startup and Restart of Nuclear Facilities"
- DOE Order 5480.4, Environmental Protection, Safety and Health Protection"
- DOE Order 5480.7A, Fire Protection"
- DOE Order 5480.8A, Contractor Occupational Medical Program, 6/26/92"
- DOE Order 5480.9A, Construction Project Safety and Health Management"
- DOE Order 5483.1A, Occupational Safety and Health Program for DOE Contractor Employees at Government-Owned Contractor-Operated Facilities"
- DOE Order 5484.1, Environmental Protection, Safety, and Health Protection Information Reporting Requirements"
- DOE Order 5632.1C, Protection and Control of Safeguards and Security Interests, 7/15/94"
- DOE Order 5633.3B, Control and Accountability of Nuclear Materials, 2/12/93"
- DOE Order 5660.1B, Management of Nuclear Materials"
- DOE Order 5820.2A, Radioactive Waste Management"
- DOE Order 6430.1A, General Design Criteria"

3.4.3 RL Policies and Directives

- None

3.4.4 Environmental, Safety, and Health (ES&H) Requirements

- HNF-3617, Rev 0, Hanford Site Integrated Stabilization Management Plan"

3.5 PRIME CONTRACTOR WORK SCOPE

This section contains top-level requirements pertaining to the prime contractors at the Hanford Site.

3.5.1 Fluor Daniel Hanford, Inc. (FDH) Contract Requirements Summary

The following paragraphs summarize excerpts from the Project Hanford Management Contract (PHMC) with RL. These excerpts are intended to provide an overview of responsibilities and expectations. All contractual matters will be administered and dispositioned in accordance with the PHMC document and not this summary document.

The Project Hanford Management Contract (PHMC) with FDH (DE-AC06-96RL13200), dated August 6, 1996 (RL 1996d), provides for the following summary requirements.

The PHMC Contractor shall be responsible for planning, managing, integrating, operating, and implementing a full range of Hanford Site programs, projects, and other activities as set forth in Section C of the contract. The PHMC Contractor shall be responsible for planning, integrating, managing, and executing the Hanford Site programs, projects, operations, and other activities as described in the Statement of Work, and detailed in the Performance Measures in Section J, Appendix D, of the contract.

The contractor shall furnish, or cause to be furnished, all personnel, facilities, equipment, material, supplies, and services (except as may be expressly set forth in the contract as furnished by the government), and otherwise do all things necessary for, or incident to, providing its best efforts to efficiently and effectively conduct all necessary work set forth in the Statement of Work. Because of the existence of the Hanford Environmental Health Foundation (HEHF), FDH is not responsible for health-related services provided by HEHF.

The contractor shall conduct business at the Hanford Site consistent with the values that flow from the Hanford Strategic Plan (RL 1996a). The following values are the goals of this contract:

- Real progress on cleanup
- Systems managerially and financially in control
- Optimization of the Hanford Site infrastructure
- Technical integrity of an integrated Site baseline

- Meeting commitments and schedules
- Stability to the local economy.

The contractor shall integrate safety and environmental awareness into all activities, including those of subcontractors at all levels. Work must be accomplished in a manner that achieves high levels of quality while protecting the environment and the safety and health of workers and the public, and is in compliance with applicable requirements.

The contractor shall identify hazards, manage risks, identify and implement good management practices sitewide, and make continued improvements in ES&H performance.

The contractor shall seek ways to streamline work processes by the use of necessary and sufficient processes to identify standards and requirements.

The period of performance for the work specified in Section C of the contract shall commence October 1, 1996, and continue through September 30, 2001, unless sooner terminated as provided for in other provisions of the contract. The contract can be extended for up to an additional 5 years if the option provided for in the contract is exercised

3.5.2 Battelle Memorial Institute (BMI) Contract Requirements Summary

Battelle Memorial Institute (Contractor) manages and operates the Pacific Northwest National Laboratory for DOE. This section contains summary excerpts from the management and operations contract that pertain to the EM direct funded Waste Management & Operational Compliance Program at the Laboratory. The text of the entire contract can be viewed at the following Internet address:
http://www.hanford.gov/doe/contracts/de-ac06-76rl01830/conformed/toc.html.

Pacific Northwest National Laboratory's mission is documented within DOE strategic and mission plans and is annually updated as necessary within the Laboratory's Institutional Plan. In support of DOE organizations, the mission of the Laboratory is to serve as a national resource in science and technology research, development, and deployment focusing on, but not necessarily limited to, the following:

(a) Environmental Quality Mission

The Contractor shall develop and deploy technology to: 1) solve national issues related to the management and remediation of hazardous and/or radioactive waste and environmental contamination and 2) reduce future environmental concerns. The Contractor shall support the DOE in developing scientifically sound tools for risk assessment and management and in carrying out risk assessment for DOE sites as appropriate. The Contractor shall contribute to the development of inherently clean process technology, both through basic science and development of technology for environmentally conscious processing and pollution prevention.

The Contractor shall make enduring and strategic investments in the environmental quality mission area. The Contractor shall manage the Laboratory to contribute to larger national environmental activities while supporting the Hanford Site cleanup mission.

The DOE's expected Outcomes for Environmental Quality are built on a foundation of the best science and technology for improved environmental stewardship and sustainable development, and advancement of environmental technologies into the next century. The Contractor shall, in addition to other tasks that may be assigned by DOE, provide management and operations, technical, and scientific direction and support to:

(1) provide a scientifically defensible basis for assessing and understanding risk as a part of environmental management decision making;
(2) focus technology development and deployment, particularly with regard to long-term solutions that substantively reduce life-cycle costs and risks (e.g. bioremediation, in situ technologies, separations);
(3) develop partnerships with other Federal laboratories, industry, and academia;
(4) deploy environmental technologies in partnerships with the commercial sector; and
(5) develop partnerships with users for technical management of the national science and technology development programs.

To support Hanford, the Contractor shall provide overall coordination of the work associated with the Environmental Technology Program, provide primary facilitation support to the Site Technology Coordination Group, provide support to the Hanford Technology Deployment Center, and provide services to EM programs at the Hanford Site such as Environmental Restoration, Waste Management, and Facilities Transition.

Further, the Contractor shall support the River Protection Project (RPP) by assisting the DOE Office of River Protection (ORP) in establishing the Waste Disposal Integration Team (WIT) Project. The WIT project assists DOE in carrying out the full range of its responsibilities associated with executing the ORP mission.

In addition, the Contractor shall support the DOE's Environmental Management Office of Technology Development (EM-50) programs as the technical lead for the national Tank Focus Area and provide "best in class" technology for other national Focus Areas and cross-cutting programs.

(b) The Energy Resources Mission

The Contractor shall conduct research to develop and deploy technology to improve the efficiency and cost effectiveness and lessen environmental impacts from devices used for the generation, transmission, distribution, storage, and utilization of electric power and for the efficient use of natural gas. In addition, the Contractor shall support international agreements and enhance energy safety and reliability in the Former Soviet Union and elsewhere as directed by the DOE, contribute to the understanding of scientific, technological and policy issues that impact energy policy and global environmental change, and contribute to energy efficiency in transportation and industrial processes.

The Contractor shall manage the Laboratory to focus on enhancing the utilization of existing energy assets and developing a new generation of distributed energy systems.

The DOE's expected Outcomes for the Energy Resources Mission are to increase the Nation's energy security through expansion of the resource base; environmental protection through reduced pollution from traditional energy sources, competitive renewable energy, and

knowledge for sound energy policy choices; and increasing energy productivity through efficiency of consumption and production. The Contractor shall, in addition to other tasks that may be assigned by DOE, provide management and operations, technical, and scientific direction and support to:

(1) improve transmission, distribution, and utilization of electricity and gas;
(2) improve energy efficiency and use in buildings;
(3) reduce emissions and weight in motor vehicles;
(4) reduce energy consumption and wastes produced in industrial processes;
(5) develop international agreements and facilitation of energy safety and reliability improvements in the Former Soviet Union; and
(6) enhance understanding of the technological and policy issues that impact energy policy and global environmental change.

(c) The Science Mission

The Contractor shall conduct fundamental research in the environmental and energy sciences, including contaminant transport and fate in the atmosphere and in the subsurface and marine environments, the interaction of contaminants with living systems, and climate research. The Contractor shall conduct work in the materials, chemical, and life sciences with particular emphasis on environmental, energy, health and medical as well as information systems applications.

The Contractor shall manage the Laboratory to support the Science Mission of the DOE. Science and technology activities also include education and training programs to develop and maintain an U.S. work force that is literate in science, mathematics, engineering, and technology.

The DOE's expected Outcomes for the Science mission are the development of leading-edge research facilities with access by academic, industrial and laboratory scientists and engineers; advances in materials and chemical processing for new and efficient energy systems and environmental protection; multi-disciplinary integration of a diverse set of sciences for environmental cleanup; research on advanced plasma and fusion science, expansion and efficient use of energy sources, and medical and human health; and advanced computer models of global climate. The Contractor shall, in addition to other tasks that may be assigned by DOE, provide management and operations, technical, and scientific direction and support to:

(1) establish and operate the William R. Wiley Environmental Molecular Science Laboratory (EMSL) as a state-of-the-art DOE research user facility, thereby advancing the frontiers of environmental molecular science and applying that science to DOE's environmental quality and other mission needs;
(2) bring basic scientific and technological capabilities to bear on a wide range of applied science programs to enhance the effectiveness of these programs;
(3) understand the behavior of contaminants in subsurface, marine, and atmospheric environments;
(4) enhance fundamental knowledge related to environmentally and industrially important processes, such as chemical separations and the behavior of complex fluids;
(5) bring emerging supercomputing technologies to bear on modeling complex physical systems;
(6) advance understanding of the health effects of chemical and radioactive substances;

(7) improve understanding of environmentally important microbial systems;
(8) establish and utilize alliances/collaborations with outside experts whose skills and capabilities complement the Laboratory's strengths;
(9) focus on reducing government subsidy by developing a prototype Bi-213 generator and continue to make available a source of alpha emitting isotopes; identifying new process development, products or privatization initiatives; providing input to and review support of documentation related to beneficial uses of radioisotopes; and
(10) build strategic research/educational partnerships.

(d) National Security Mission

The Contractor shall support national security policy development and implementation and develop and apply technology to implement national security policy, particularly in the areas of nonproliferation and arms control; support international cooperative efforts in nuclear safety and environmental security; and provide technologies to meet additional national security requirements identified by DOE.

The Contractor shall, as provided in DOE's strategic plans, support DOE's National Security Core Business Area, including DOE's role and responsibilities in the U.S. Interagency national security infrastructure. The Contractor shall, in addition to other tasks that may be assigned by DOE, provide management and operations, technical, and scientific direction and support to:

(1) support national policy development and implementation;
(2) develop technology to implement national security policy, particularly in the areas of nonproliferation and arms control;
(3) develop technology to meet national security requirements generated by the disparate threats generated across the broad spectrum of mission requirements; and
(4) enhance international security through cooperative efforts in nuclear safety and environmental security.

3.5.2.1 Summary Description of Work

The Contractor shall, in accordance with the provisions of the Contract, accomplish the missions assigned by the Department of Energy (DOE); and perform the work described in the Statement of Work (SOW) by providing the intellectual leadership and management expertise necessary and appropriate to manage, operate, and staff the Pacific Northwest National Laboratory (the Laboratory). Management of the Laboratory includes operation of the Government and private facilities assigned to the Contractor, including facilities off-site, if any, used for DOE work. As directed by DOE, the Contractor shall maintain and enhance the Laboratory's core technical capabilities and carry out appropriate public outreach activities consistent with its mission. DOE missions are assigned through strategic planning, program coordination, and cooperation between the Contractor and DOE. Inasmuch as the assigned missions of the Laboratory are dynamic, the SOW is not intended to be all-inclusive or restrictive, but is intended to provide a broad framework and general scope of the work to be performed by the Contractor at the Laboratory. The SOW does not represent a commitment to, or imply funding for, specific projects or programs. All projects and programs will be authorized individually by DOE and/or other work sponsors in accordance with the provisions of the Contract. Work under the Contract shall be conducted by the Contractor in a manner that will protect the environment and ensure the safety and health of employees and the public. In performing the Contract work, the

Contractor shall implement appropriate program and project management systems to track progress and enhance cost effectiveness of work activities; develop integrated plans and schedules to achieve program objectives, incorporating appropriate input from DOE and stakeholders; maintain sufficient technical depth to manage activities and projects throughout the life of a program; utilize appropriate technologies to reduce costs and improve performance; and maintain Laboratory facilities as necessary to accomplish assigned missions.

3.5.2.2 Designation of Work and Facilities

The Government expressly engages the Contractor to manage and perform work and services, and to manage, operate and maintain the facilities of Department of Energy (DOE) both as described in the Contract and as designated in writing from time to time by DOE, including the utilization of information, material, funds, and other property of DOE, the collection of revenues, and the acquisition, sale or other disposal of property for DOE subject to the limitations as hereinafter set forth. The Contractor undertakes and promises to exert its best efforts to manage and perform said work and services and to manage, operate, and maintain said facilities, upon the terms and conditions herein provided and in accordance with such directions and instructions not inconsistent with the Contract which DOE may deem necessary to give to the Contractor from time to time. In the absence of applicable directions and instructions from DOE, the Contractor will use its best judgment, skill and care in all matters pertaining to the performance of the Contract.

3.5.2.3 Special Contract Requirements

Specific contract requirements are as follows.

3.5.2.3.1 Use of Facilities for Contractor's Own Account

During the term of the Contract, the Contractor may use facilities and other Government-owned property in its custody under the Contract to conduct research and development activities for its own account, to the extent and in accordance with such terms and conditions as DOE and the Contractor may agree to from time to time as set forth in Contract DE-AC06-76RL01831. Except as incorporated by reference in the aforementioned contract, the terms and conditions of the Contract shall not apply to such research and development activities.

3.5.2.3.2 Source and Special Nuclear Materials

The Contractor shall comply with all applicable regulations and instructions of DOE relative to the control of and accounting for source and special nuclear material (as these terms are defined in applicable regulations). The Contractor shall make such reports and permit such inspections as DOE may require with reference to source and special nuclear materials. The Contractor shall take all reasonable steps and precautions to protect such materials against theft and misappropriations and to minimize all losses of such materials.

3.5.2.3.3 Aquisition and Use of Environmentally Preferable Products and Services

(a) In the performance of the Contract, the Contractor shall comply with the requirements of the following issuances:

(1) Executive Order 13101 of September 16, 1998, entitled "Greening the Government through Waste Prevention, Recycling, and Federal Acquisition"

(2) Section 6002 of the Resource Conservation and Recovery Act (RCRA) of 1976, as amended (42 U.S.C. 6962, Pub. L. 94-580, 90 Stat.2822).

(3)Title 40 of the Code of Federal Regulations, Subchapter I, Part 247 (Comprehensive Guidelines for the Procurement of Products Containing Recovered Materials) and such other Subchapter I Parts or Comprehensive Procurement Guidelines as the Environmental Protection Agency may issue from time to time as guidelines for the procurement of products that contain recovered/recycled materials.

(4) "U.S. Department of Energy Affirmative Procurement Program for Products Containing Recovered Materials" and related guidance document(s), as they are identified in writing by the Department.

(b) The Contractor shall prepare and submit reports on matters related to the use of environmentally preferable products and services from time to time in accordance with written direction (e.g., in a specified format) from the Contracting Officer.

(c) In complying with the requirements of paragraph (a) of this clause, the Contractor shall coordinate its concerns and seek implementing guidance on Federal and Departmental policy, plans, and program guidance with the DOE recycling point of contact, who shall be identified by the Contracting Officer. Reports required pursuant to paragraph (b) of this clause, shall be submitted through the DOE recycling point of contact.

3.5.2.3.4 Project Management System

(a) Project Management System. In the performance of the Contract, the Contractor shall establish, maintain, and use a project management system that meets the requirements specified in the contract, and as further defined by the Contracting Officer. The Contractor's project management system shall be applicable to all projects, including Strategic and Major Systems, Major Projects, Other Line Item Projects, General Plant Projects, and expense funded Construction as defined by the Contracting Officer. The Contractor shall provide the Contracting Officer with a detailed, written description of the proposed project management system for approval. The Contractor project management system shall include features to allow the capability to: (1) Define the work elements for the project in an integrated manner that arranges work in a hierarchy of related elements to a level of detail in which work is assigned; (2) Identify the project organizational structure responsible for accomplishing the work, and define the organizational elements in which work will be planned and controlled; (3) Schedule the authorized work in a manner which describes the sequence of activities and identifies significant task interdependencies required to meet the requirements of the project; (4) Identify physical products/modules, milestones, technical performance goals, or other indicators that will be used to measure progress; (5) Establish and maintain a time-phased cost plan against

which project cost performance can be measures; (6) Identify, at least monthly, the significant differences between both planned and actual schedule, cost, scope performance, and provide the reasons for the variances in the detail needed by work scope and managing organizations. Summarize performance data through the project organization and/or work breakdown structure to support client needs and reporting data items specified in the contract; (7) Develop revised estimates of cost at completion based on performance to date, commitment values for material, and estimates of future conditions; (8) Incorporate authorized changes in a timely manner, recording the effects of such changes in budgets and schedules; (9) Control retroactive changes to records pertaining to work performed that would change previously reported amounts for actual costs, work progress, or budgets. System revisions necessary to assure minimum capabilities described herein shall be made with no charge to the estimated cost or price of the contract. The Contracting Officer or authorized representative shall evaluate the Contractor's system. Cost effective application of controls will be a critical factor in determining acceptability of the proposed system. The Contractor shall provide access to all pertinent records, data, and plans related to the operations of the maintenance management control system for purposes of gaining Contracting Officer approval of the system, approval of proposed changes, and operation of the project control system.

Upon approval of the project management system by the Contracting Officer, the Contractor shall fully implement the system. The Contractor shall not make any significant changes to the approved system without the prior written approval of the Contracting Officer. The Contractor shall set forth-applicable system requirements in those subcontracts identified in the project management system description and shall incorporate provisions for review and surveillance of the subcontractors' systems. The review will be conducted by the Contractor, unless the Government, Contractor, or subcontractor requests government review.

3.5.2.3.5 Financial Management System

The Contractor shall maintain and administer a financial management system that includes the currently existing integrated accounting system and (1) is suitable to provide proper accounting in accordance with DOE requirements for assets, liabilities, collections accruing to the Contractor in connection with the work under the Contract, expenditures, costs, and commitments; (2) permits the preparation of accounts and accurate, reliable financial and statistical reports; and (3) assures that accountability for the assets can be maintained. The Contractor shall submit to DOE an annual plan for new financial management systems and/or subsystems and major enhancements and/or upgrades to the currently existing financial systems and/or subsystems. Such plan shall be deemed approved by DOE unless written disapproval by the Contracting Officer is received by the Contractor within 30 days of submittal of the Plan. The Contractor shall notify DOE thirty (30) days in advance of any planned implementation of any substantial deviation from this plan and, as requested by the Contracting Officer, shall submit any such deviation to DOE before implementation.

3.5.2.3.6 Whistleblower Protection for Contractor Employees

(a) The Contractor shall comply with the requirements of the "DOE Contractor Employee Protection Program" at 10 CFR part 708.

(b) The Contractor shall insert or have inserted the substance of this clause, including this paragraph (b), in subcontracts, at all tiers, with respect to work performed on-site at a DOE-owned or leased facility, as provided for at 10 CFR part 708.

3.5.2.3.7 Facilities Management

Copies of DOE Directives referenced herein are available from the Contracting Officer.

(a) Site development planning. The Government shall provide to the Contractor site development guidance for the facilities and lands for which the Contractor is responsible under the terms and conditions of the Contract. Based upon this guidance, the Contractor shall prepare, and maintain through annual updates, a Long-Range Site Development Plan (Plan) to reflect those actions necessary to keep the development of these facilities current with the needs of the Government and allow the Contractor to successfully accomplish the work required under the Contract. In developing this Plan, the Contractor shall follow the procedural guidance set forth in the applicable DOE Directives in the Life Cycle Facility Operations Series listed elsewhere in the Contract. The Contractor shall use the Plan to manage and control the development of facilities and lands. All plans and revisions shall be approved by the Government.

(b) General design criteria. The general design criteria which shall be utilized by the Contractor in managing the site for which it is responsible under the Contract are those specified in the applicable DOE Directives in the 6430, Design Criteria, series listed elsewhere in the Contract. The Contractor shall comply with these mandatory, minimally acceptable requirements for all facility designs with regard to any building acquisition, new facility, facility addition or alteration or facility lease undertaken as part of the site development activities of paragraph (a) above. This includes on-site constructed buildings, pre-engineered buildings, plan-fabricated modular buildings, and temporary facilities. For existing facilities, original design criteria apply to the structure in general; however, additions or modifications shall comply with the directive and the associated latest editions of the references therein. An exception may be granted for off-site office space being leased by the Contractor on a temporary basis.

(c) Energy management. The Contractor shall manage the facilities for which it is responsible under the terms and conditions of the Contract in an energy efficient manner in accordance with the applicable DOE Directives in the Life Cycle Facility Operations Series listed elsewhere in the Contract. The Contractor shall develop a 10-year energy management plan for each site with annual reviews and revisions. The Contractor shall submit an annual report on progress toward achieving the goals of the 10-year plan for each individual site, and an energy conservation analysis report for each new building or building addition project. Any acquisition of utility services by the Contractor shall be conducted in accordance with 48 CFR 970.41.

(d) Subcontract requirements. To the extent the Contractor subcontracts performance of any of the responsibilities discussed in this clause, the subcontract shall contain the requirements of this clause relative to the subcontracted responsibilities.

3.5.2.3.8 Non-Liability with Respect to Cost Accounting Standards

Reference is made to the clause titled, Cost Accounting Standards (CAS), and the clause titled,

Administration of Cost Accounting Standards. The Contractor shall comply with the provisions of these two clauses. However, to the extent the Contractor's accounting practices and procedures are potentially not consistent with the clauses titled Cost Accounting Standards, and Administration of Cost Accounting Standards, the Contractor shall, within sixty (60) days of actual discovery of any inconsistency with CAS, notify the Contracting Officer of such inconsistency. For those items identified to such notification, the Contractor shall not be held liable until such time as the Contracting Officer may direct a change to be implemented. The Contractor shall not be liable to the Government for any increased costs or interest thereon, resulting from any compliance with a Contracting Officer direction to implement the DOE specified accounting practice or procedure identified in the Contractor's notification described herein. Further, the Contractor shall not be held liable for amounts which the Contracting Officer determines to be immaterial (e.g., technical noncompliance) except (prospectively only) if the Contracting Officer requires a change in practice or procedure as described herein. The Contractor also shall not be liable to the Government for any increased costs or interest of a subcontractor who fails to comply with applicable cost accounting standards or to follow any practices disclosed pursuant to the requirement of such clauses; provided, that the Contractor shall include in each covered subcontract a clause making the subcontractor liable for any increased costs or interest thereon resulting from any failure of the subcontractor to comply with the Cost Accounting Standards (CAS), and the Contractor seeks the subcontract price adjustment and cooperates with the Government in Government's attempts to recover from the subcontractor.

3.5.3 Bechtel Hanford, Inc., Contract Requirements Summary

The following paragraphs provide an overview of ERC's Prime Contract with DOE. All contractual matters will be administered and dispositioned in accordance with the Prime Contract Documents and not this summary. The Environmental Restoration Contractor (ERC) shall be responsible for planning, managing, executing, and integrating the Environmental Restoration (ER) Program at the Hanford Site. The ERC shall perform or subcontract program activities as identified in the Statement of Work, Section C, of the Prime Contract. These program activities include, but are not limited to, characterization and remediation of past-practice waste sites, technology development program integration, application of innovative remediation technologies, D&D activities, waste disposal, ground water/vadose zone integration and surveillance/maintenance of inactive facilities and waste sites. A current list of facilities for D&D is included in Section J, Attachment 2, Appendix 5, in the contract. Additionally, BHI has been assigned, by DOE-RL, the role of integration contractor for the Groundwater/Vadose Zone Integration Project.

The ERC shall provide the technical and management staff to plan, manage, perform, and integrate the full range of activities required to accomplish the environmental remediation of the Hanford Site. The ERC shall be responsible for performing the work consistent with all applicable federal, state, and local laws; regulations; DOE Orders, directives, and Secretary of Energy Notices, per the prime contract.

The ERC integrates all contractor and subcontractor activities as necessary to accomplish all requirements in applicable laws, regulations, the Tri-Party Agreement, and the ER Project. The ER Project milestones are included in the most current negotiated revision of the Tri-Party Agreement. The quality and timeliness of deliverables shall satisfy all requirements of laws,

regulations, the Tri-Party Agreement, and any approved Tri-Party Agreement changes.

The ERC shall provide leadership in the application of innovative technologies to remediate the Hanford Site. In particular, the ERC must be cognizant of work being performed to remediate other DOE sites as well as environmental remediation and D&D technologies being applied in the commercial sector. The ERC must maintain cognizance of activities within DOE's Research, Development, and Demonstration Technology Evaluation Program, and shall be expected to identify opportunities for development and application of those technologies in the ER Project at the Hanford Site.

3.5.4 British Nuclear Fuels Limited (BNFL) Contract Requirements Summary

The Tank Waste Remediation System Privatization Contractor shall provide waste treatment and immobilization services at fixed-unit prices using privatized facilities (a Contractor developed, financed, constructed, operated, and deactivated waste treatment and immobilization system for Hanford Tank Waste). The multiple parts of this Contract are identified as Part A, Part B-1, and Part B-2.

PART A
- A 20 month period (September 25, 1996 to May 25, 1998), to establish the technical, operational, regulatory, and financial elements required by privatized facilities to provide waste treatment services at fixed-unit prices.

PART B-1
- A 24 month period (August 1998 to August 2000) to: 1) optimize the Low Activity Waste and High Level Waste treatment and immobilization system, mitigate risk, and reduce contingencies in the waste treatment and immobilization system defined by the Contractor in Part A; 2) revise the technical, operational, regulatory, and financial elements of the waste treatment and immobilization system; 3) provide firm fixed-unit prices for waste treatment services; and 4) perform all contractor activities necessary to reach financial closure for privatized facilities.

PART B-2
- A 17+ year period (August 2000 to February 2018) to complete design, construction, and permitting the privatized facilities, provide waste treatment services at firm fixed-unit prices, and deactivate the privatized facilities. During Part B-2, three Low Activity Waste feed envelopes and one High Level Waste envelope will be provided for treatment. DOE will order a minimum quantity of waste treatment services during Part B-2 and may order additional treatment services. When no further waste treatment services are required under this contract, DOE reserves the unilateral right to: 1) take possession of the privatized facilities in accordance with Clause H.24, Government Option to Take Title to Treatment Facility, or 2) direct the Contractor to deactivate all privatized facilities.